

REMARKS

Allowable Subject Matter

Applicants gratefully acknowledge the allowability of claims 12-17 subject to the objection as being dependent upon a rejected base claim. In view of the Examiner's recommendation, Applicants have rewritten in independent form all of the limitations of the base claim and any intervening claims, thereby obviating the rejections asserted against claims 12-17.

The Examiner has rejected claims 1-11 and 18 under 35 U.S.C. 102(e) as being anticipated by Hreha U. S. 6,400,696.

The Examiner states that Hreha teaches the invention as claimed including bent-pipe satellite system which couples a LAN to a gateway and uses a dynamic assignment/multiple access protocol, directing Applicants' attention to the abstract.

The Examiner states as to claim 1, Hreha teaches a system that comprises a gateway that interfaces to an Internet provider or corporate network, a Local area network edge device, a satellite that provides a communication Link between the gateway and the local area network edge device, and one or more personal computers coupled by way of a network to the local area network edge device, a dynamic resource allocation system that supports differentiated services with different levels of priority, comprising:

- an Internet protocol network (column 3, lines 16-17) that comprises:

- a classifier for identifying specific types of messages (column 3, lines 56-59), Hreha discloses the system accommodates multiple types of data such as voice traffic and video (i.e. these types of data are inherently identified before they can be separated or grouped as belonging to a type therefore a "classifier" to perform such a task is present in the system);

- a dynamic assignment/multiple access (DAMA) communication protocol for transmitting data over the system (column 2, lines 18-22 and lines 43-46).

Applicants respectfully submit that Hreha '696 teaches "Dynamic resource management systems that improve communication over a satellite communication link. The system comprises one or more personal computers coupled by way of a network to a local area network edge device. The local area network edge device communicates by way of a non-processing satellite with a gateway that interfaces to an internet service provider or corporate network. The non-processing satellite implements a bent pipe communications link between the local area network edge device and the gateway. The non-processing (bent pipe) satellite provides a fixed connectivity to an aggregation point on the ground (the gateway). The networking protocol supported by the local area network edge device is an Internet protocol (IP), such as 802.3 Ethernet, universal system bus

(USB), or 802.11 Ethernet protocols, for example. Signaling in the system is based on non-asynchronous transfer mode (ATM) protocols. These protocols are preferably selected from public multiple access control signaling standards, such as digital video broadcasting – return channel over satellite (DVB-RCS), data over cable service interface specification (DOCSIS) and 802.16, for example, although other proprietary implementations may be employed. Dynamic assignment/multiple access algorithms that implement communication protocols that overlay the selected multiple access control signaling standard are employed in the system.”

Applicants respectfully submit at column 3, lines 16-17 there is stated “The networking protocol supported by the local area network edge device 23 is an Internet protocol (IP).”

At column 2, lines 18-22 and lines 43-46, Applicants respectfully submit there is taught “To accomplish the above and other objectives, the present invention provides for dynamic resource management systems that improve communication between a local area network edge device and a gateway that interfaces to an internet service provider or corporate network.”, and “for example, although other proprietary implementations may be employed, dynamic assignment/multiple access algorithms that implement communication protocols that overlay the selected multiple access control signaling standard are employed in the system.”, respectively.

Applicants respectfully contend that the Examiner’s conclusion that the classifier is inherently identified since Hreha allegedly discloses the system accommodates multiple types of data such as voice traffic and video (i.e., these types of data are inherently identified before they can be separated or grouped as belonging to a type) is misplaced since the conclusion according to the Examiner that a classifier must be present in the system to perform this task does not follow.

Applicants respectfully submit that Hreha at column 3, lines 56-59, wherein there is stated “The system 20 accommodates multiple types of data, video or voice traffic. Quality-of-service levels may be guaranteed by the use of differentiated services (DIFSERV)-like protocols. Link fragmentation and interleaving (LFI) protocols or frame relay fragmentation (FRF. 12) protocols are also employed by system 20 to handle the variable sized IP packets.”, no where suggests, teaches or implies a classifier for identifying specific types of messages as required in claim 1 which calls for a dynamic resource allocation system that supports differentiated services with different levels of priority comprising inter alia a classifier for identifying specific types of messages.

Furthermore, Applicants respectfully contend that in Hreha at column 2, lines 18-22 and lines 43-46 there is not taught, suggested or implied a dynamic assignment multiple access (DAMA) communication protocol for transmitting data over the dynamic resource

allocation system which supports differentiated services with different levels of priority as called for in claim 1. Column 2, lines 18-22 and lines 43-46 merely call for a dynamic resource management system that improves communication between a local area network edge device and a gateway that interfaces to an Internet service provider or corporate network and “for example, although other proprietary implementations may be employed, dynamic assignment/multiple access algorithms that implement communication protocols that overlay the selected multiple access control signaling standard are employed in the system.”, respectively.

Applicants therefore respectfully conclude, as above recited, that the classifier as defined in claim 1 and the DAMA as defined in claim 1 are conspicuously absent in the recitations of Hreha relied upon by the Examiner.

The Examiner states as to claims 2 and 3, Hreha teaches the dynamic resources allocation system recited in claims 1 and 2, respectively, wherein the satellite is a non-processing satellite, and a bent pipe communication link between the local area network edge device and the gateway (column 3, lines 4-12).

Applicants respectfully contend that in Hreha at column 3, lines 4-12 there is disclosed “The local area network edge device 23 communicates by way of a non-processing satellite 21 having an antenna system 16 with a gateway 27 having an antenna 14. The gateway 27 interfaces to one or more internet service providers 28 or a corporate network 28. The non-processing satellite 21 includes an antenna system 16 and implements a bent pipe communications link 24 between the local area network edge device 23 and the gateway 27.”

Applicants respectfully submit that notwithstanding that Hreha has a disclosure relating to non-processing satellite which may be a bent pipe communications link between the local area network edge device and the gateway, Hreha is nevertheless devoid of any suggestion, teaching or implication, for reasons recited above which are hereby respectfully incorporated by reference, that a dynamic resource allocation system supporting differentiated services with different levels of priority comprises an Internet protocol comprising a classifier and a DAMA as detailed in claim 1.

The Examiner states as to claim 4, Hreha teaches the dynamic resource allocation system recited in claim 1 wherein the satellite is a processing satellite comprising an onboard resource management (figure 1, item 11).

Applicants respectfully submit that in figure 1, item 11 as addressed in the specification at column 4, lines 23 et seq it is stated “In the prior system 10, processing payload implementations require that the dynamic assignment/multiple access algorithms concern themselves with the availability of resources within the satellite 11.”

Although Applicants do not necessarily agree that item 11, figure 1 represents a processing satellite supported by the above disclosure, this is of no consequence since claim 4 is patentably distinguishable over Hreha for the reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

The Examiner states as to claims 5-11 and 18, Hreha teaches the dynamic resources allocation system recited in claim 1 wherein there is a DAMA communication protocol comprises an application detection algorithm, a resource requirement estimation algorithm that is based on queue statistics versus performance statistics, a resource request that generates a resource request to set required resources, a resource request that sends raw queue statistics to the gateway to set required resources, a weighted fair queuing algorithm that performs a weighted fair queuing that drains the queues while effectively utilizing the gateway assigned resources, an algorithm that accumulates all requests received at the same time, an algorithm that functions to assign each edge device a time and frequency resources based upon service classes and consumer profile for each current and previous request, and a bandwidth request algorithm, a connection acceptance algorithm, a bandwidth usage detection algorithm, and a resource assignment algorithm (column 3, line 64 to column 4, line 15).

Applicants respectfully submit that claims 5-11 and 18 are patentably distinguishable over Hreha for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference. Further, Applicants respectfully submit that although the terminology appears in Hreha with regard to application detection algorithm related to claim 5, the combination as claimed is not present for reasons recited above which again are hereby respectfully incorporated by reference.

Further, Applicants respectfully submit with regard to claim 6 that although at column 4, line 2 the terminology is disclosed "algorithm that estimates resource requirements based on queue statistics versus performance statistics", the combination of this limitation with claim 1 is not taught for reasons cited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 7, Applicants respectfully submit that although an algorithm that generates a resource request or sends raw queue statistics to the gateway 27 to set required resources is disclosed, the combination with claim 1 is not taught for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 8, Applicants respectfully submit that although an algorithm is disclosed that generates a resource request that sends raw queue statistics to the gateway 27 to set required resources, the combination with the elements of claim 1 is not taught for

reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 9, Applicants respectfully submit that although a weighted fair queuing algorithm that drains the queues while effectively utilizing the gateway assigned resources is disclosed, the combination with the elements of claim 1 is nowhere to be found for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 10, Applicants respectfully submit that although an algorithm that accumulates all requests received at substantially the same time is disclosed, the combination is absent with those elements of claim 1 for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 11, Applicants respectfully submit that although an algorithm is disclosed that functions to assign each edge device a time and frequency resources based upon services classes and consumer profile for each current and previous request, the combination with the elements of claim 1 is not taught, suggested or implied for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

With regard to claim 18, Applicants respectfully submit that the limitation of DAMA communication protocol comprises a bandwidth request algorithm is not to be found in the recited disclosure relied upon by the Examiner, as well as a connection acceptance algorithm and a bandwidth usage detection algorithm. Although Applicants do not necessarily agree that the resource assignment algorithm as set out in claim 18 is equivalent to the algorithm recited in column 4 at line 4 "that generates a resource request or sends raw queue statistics to the gateway" and likewise at column 4, line 14 "an algorithm that functions to assign each edge device a time and frequency resources based upon services classes and consumer profile for each current and previous request", the combination of these four algorithms in the dynamic resource allocation system as defined in claim 18 alone is not taught, suggested or implied. Furthermore, notwithstanding the absence of the teachings of the algorithms recited above, the combination of these algorithms with the elements of claim 1 is nowhere to be suggested, taught or implied in Hreha for reasons recited above with regard to claim 1 which are hereby respectfully incorporated by reference.

Applicants respectfully submit that claims 12-17, having been amended so that claim 12 is rewritten in independent form including all the limitations of the base claim and any intervening claims as suggested by the Examiner, are now deemed allowable.

Applicants further respectfully submit that the remainder of the claims 1-11 and 18 have been shown to contain patentable subject matter and to be patentably distinguishable over Hreha.

Accordingly, Applicants respectfully request that this application be reviewed and reconsidered in view of the above remarks and amendments and that a Notice of Allowance be issued at an early date.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'AW Karambelas', written over a horizontal line.

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